

# UNIVERSITY OF CALIFORNIA.

## AGRICULTURAL EXPERIMENT STATION.

BULLETIN NO. 31.

[In order to render the results of investigations and experiments conducted by the Agricultural Department of the University of California more quickly and more generally available than has heretofore been done through the annual or biennial reports, it is proposed to embody hereafter, in the form of "Bulletins," to be issued as often as may seem desirable, reports of results, as well as such other discussions, information or answers to questions as may be of general interest. It is intended to make these bulletins, as a rule, short enough for insertion in the daily or weekly papers of the State, and proof-slips of the same will be regularly mailed to papers applying therefor. The substance of these bulletins will ultimately be embodied in a more complete and connected form, in the annual reports of the College of Agriculture.]

### Examination of Trousseau and Burger Wines.

#### Trousseau.

It is well understood that among the more important problems to be solved on behalf of California viticulture is the determination of the proper blends for the Zinfandel grape; of which, on account of its uniform and vigorous productiveness, so large a proportion has been planted, while the very pronounced peculiarities of its wine stand in the way of its taking a high rank among clarets when unblended.

Among the grape varieties best adapted for the purpose of overcoming the too pronounced characters of the Zinfandel, the Trousseau has been prominently mentioned. There is no question that in several cases this blend has been remarkably successful; perhaps more decidedly so than any except the Grossblau. But in others it has been unsatisfactory; and it is of considerable interest to determine the cause of this difference, since the Trousseau when properly pruned is a good bearer and its wine imparts to blends a desirable delicacy. Below are given the results of the analyses of several authentic Trousseau wines, that throw some light on the question:

Grower.	Locality.	Vintage...	Body .....	Alcohol.		Must.	Acid as Tar- taric .....	Ash.....	Tannin ....	Sagar by Spindle.	Acid....
				By Vol.	By W'ht						
M. Denicke .....	Fresno.....	1883	3.07	13.10	10.63	...	.645	.534	.172	...	...
J. T. Doyle .....	Cupertino .....	1883	2.69	13.50	11.15	...	.447	.600	.040	...	...
C. A. Wetmore .....	Livermore .....	1884	3.04	12.18	9.78	...	.435	.328	.041	...	.518
Wm. Pfeffer .....	Santa Cruz Mts .....	1884	2.28	9.92	11.64	...	.474	.349	.050	22.87	...
Geo. West .....	Stockton .....	1884	2.66	11.23	13.73	...	.485	.379	.075	23.94	.330
BURGER WINES.											
Chas. Krug .....	St. Helena .....	1880	1.25	7.24	9.00	...	.562	.162	...	...	...
Barton .....	Fresno .....	1883	2.24	9.12	11.36	...	.487	.367	...	...	...
Barton .....	Fresno .....	1884	3.02	8.98	11.17	...	.495	.255	...	...	...
Rose .....	San Gabriel .....	1884	2.16	9.20	11.42	...	.397	.308	...	...	...
Rose, Blue Elbling .....	San Gabriel .....	1884	2.05	11.00	13.42	...	.527	.264	...	...	...
Rose, Sultana .....	San Gabriel .....	1884	3.87	10.81	13.30	...	.477	.319	...	...	...

It will be noted that except in the case of Denicke's 1883, from Fresno, the tannin percentage of these wines are very small, and far below those required for standard clarets. The

same is true, as has heretofore been shown, of the Zinfandels grown in the coast range valley lands; while those from the hill lands, and seemingly also those from the San Joaquin valley, have a larger supply of tannin. It is in a great measure the lack of tannin that leaves the somewhat sharp acid of the Zinfandels so unpleasantly prominent; and when this is remedied, as in the hill Zinfandels it is naturally, or as it is in blends with Grossblau, Crabb's Burgundy or other tannin-bearing grapes, that sharpness vanishes, although the peculiar flavor of the Zinfandel still comes out. The Trousseau overcomes the latter to a remarkable extent, but the blend can be satisfactory only on condition that the tannin deficiency is remedied at the same time.

The practical inference is obvious that, in blending Trousseau with Zinfandels, care should be taken not to join two products having the same deficiency. Thus, a hill Zinfandel would probably make a satisfactory blend with a Trousseau like Denicke's, without any third ingredient. But such as those from Livermore, Cupertino, or Santa Cruz mountains, would evidently need some third, heavily tannin-bearing wine, in order to make an acceptable blend; the more as the Trousseau carries, as will be seen, a pretty full supply of acid, though not of as sharp a quality as is that of the Zinfandel.

Another practical inference is that in order to give to the Trousseau at least as much tannin as the grape can supply, it should be allowed to remain on the skins as long as is compatible with other considerations; such as exposure to acetification, to contamination from unsound grapes, etc.

On the other hand, it is clear that the Trousseau poor in tannin would blend particularly well with the highly tannin-bearing Zinfandels of Fresno, whose relative lack of acid in ordinary years, would also thereby be compensated.

In regard to body and alcoholic strength, the Trousseau wines agree very nearly with the Zinfandels from the same localities. They do not, in these respects, or as regards tannin, show any special adaptation for port wines; although the Trousseau has thus far been accounted among the best for this purpose. It is probable that the true port wine grapes, lately introduced into the State, will hereafter take precedence wherever good ports are desired.

#### Burger.

The Burger is understood to be a grape of the northern region of the wine belt of Europe, and the grape passing in California under that name has usually been associated, both in the vineyards and cellars, with the (true) Riesling\*, and the Gutedel or Chasselas. Like some others of like climatic habits it has, however, been also carried to the hotter parts of the State, notably to Fresno and San Gabriel. It is interesting to note the changes wrought in the character of the grape and wine by this transposition, and the analyses given in the table above afford an insight into the matter, albeit the representation is not as complete as could be desired for practical purposes. For farther comparison are subjoined the analyses of wines from the Blue

Elbling† and the Sultana, from the same locality (San Gabriel) as one of the Burger wines.

The first in the above list is perhaps an extreme example of the character of the Burger wines in the cooler parts of the State. The body and ash are extraordinarily low, as is the alcohol percentage for California at least; while the acid is quite full, for a white wine especially. Yet this wine, by an oversight is left to itself under very adverse circumstances, has kept, and has acquired a respectable bouquet. The same, by the way, is true of a white wine made from Charbono in the same year, whose alcohol percentage is actually two per cent lower than that of the Burger; proving that certain wines will keep in our coast climate despite what is commercially considered an inadmissible low content of spirit.\*

The Fresno Burgers of 1883 and 1884 range closely together in respect to alcohol percentage, and that from San Gabriel scarcely differs materially. They run a little above 9 per cent, by weight or 11 by volume and considering the latitude in which they were grown, are certainly light wines; yet they are known to be of good keeping qualities, and with their full but not excessive or unpleasant acid, are sure to improve with age—as experience has shown to be the case.

The southern Burgers have a considerably heavier body than that from Napa. Barton's 1884 runs so high in this respect as to be even with the Zinfandels, and has a deeper color than is usually seen; perhaps in consequence of a slight fermentation of the must on the skins.

Few probably will expect the Burger to yield a high-class wine anywhere. But being a prolific bearer, easily fermented, and a good keeper, it seems eminently adapted to the production of light and pleasant second and third-class wines which may be consumed as are the country wines in Europe, without any risk of intoxication—an excellent substitute for the fiery, heady Mission wines of yore. The uses of the Burger in carrying other musts safely through their fermentation are too well known to need comment.

The Elbling of San Gabriel, though a light-bodied wine like the Burger, and quite full in acid also, is much more alcoholic and of a different type.

The extraordinarily high body of the Sultana from the same locality, together with its high alcohol percentage, places it in the same category as West's Prolific, Feher Szagos, etc. But, as will appear from other analyses made, its composition differs enormously in different localities.

E. W. HILGARD.

Berkeley, Jan. 29, 1885.

\*It is greatly to be desired that before the misnomers become inveterate, the so-called Riesling of Fresno should be known and called only by its proper name of "Chauche Gris;" it being more nearly related to the Chasselas. Again, the "Blue Alba" should be called "Elbling," as it has no relation to the Italian island of Elba, but to the German river Elbe, and is a northern grape.

†Most of the wines made in 1880 at the Viticultural Laboratory range lower in alcohol than the average of succeeding years.